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ABSTRACT

The design of California's Structured English Immersion (SEI) program for limited-English-speaking students, which replaced its bilingual education program by state mandate, is described and suggestions for implementation are offered. SEI has several variations, each characterized by (1) extensive use of English and (2) use of English-as-a-Second-Language (ESL) methodology, which differs from mainstream English instruction. The report discusses differences between SEI, bilingual education, and sink-or-swim English language programs, research evidence supporting the effectiveness of SEI in different states and settings, the reasons for this effectiveness, factors to be considered in choosing SEI, and how to put together an SEI program, using examples from existing program designs. A study of SEI's use in Seattle (Washington) public schools is appended. (Contains 6 tables and 39 endnotes.) (MSE)

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Basics of Structured English Immersion for Language-Minority Students

By Keith Baker, Ph.D.1

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By Keith Baker, Ph.D.1

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By popular referendum in June 1998, California's voters replaced the country's most extensive bilingual education program for Limited English Proficient Students (LEPS) with a program of "Structured English Immersion" (SEI). Immediately after Prop 227 passed, bilingual education program advocates sued the state to stop the SEI program, charging in part that nobody knows what SEI is, or how to do it, or if it works. These claims are all false. However, there is an ironic partial truth in them in that few schools or educators know much about SEI because the bilingual education program advocates managed to keep SEI pretty well buried for almost 20 years.2

California-- like most states-- put everything on bilingual education programs, but now they have to do something different without a good idea of what it is or how to do it. Therefore, I have prepared a basic primmer on SEI, primarily to help California's schools to put SEI in place, as required by Prop 227, but also to help inform the teachers of LEPS everywhere about this promising method of teaching children who do not know the English language.3

SEI was first described by Baker and de Kanter4 who gave that name to their recommendation that schools try the impressive Canadian Immersion method of teaching second languages for teaching English to LEPS.

In the nearly two decades since Baker and de Kanter's suggestion, a few SEI programs have been developed and tested. The experience of these programs, especially Seattle's, provide much needed guidance to California's schools-- and to others interested in bilingual education program reform.

What is SEI?

Ramirez5 has the most extensive discussion of the characteristics of SEI. As the first step in a longitudinal study comparing SEI to two types of bilingual education programs, Ramirez' group reviewed the literature and detailed the theoretical and instructional practices differences among the three programs. The presence of these hypothesized program differences were validated in extensive classroom observations over four years.

Actual practice did not confirm the presence of the differences among programs posited by academic

theorists. The only hypothesized difference among the programs to occur in actual practice was the percentage of instructional time teachers taught in English as opposed to Spanish.6

In all likelihood, classroom teachers are exercising their good judgment by ignoring a lot of academic theoretical mumbo jumbo that has no practical application.7 T. Levenson. "How not to make a Stradivarius". The American Scholar, (Summer) 351-378, 1994.8 When the discussion of the Newtonian and Stradivarius analogies is complete, it will be obvious that the common belief that Stradivarius had a "secret" is the product of applying Newton analogies to the problem of making a violin.9

In short, it seems sufficient to define an SEI program one where (1) English is used and taught at a level appropriate to the class of English learners-- that's different from the way English is used in the mainstream classroom, and (2) teachers are oriented toward maximizing instruction in English and use English for 70-90% of instructional time, averaged over the first three years of instruction.10

Ramirez also reviewed the literature on second language learning in general to identify the properties of a good second language learning setting. These were also looked for in actual classroom practice. Again, there was no difference among the three programs; all were really bad places in which to learn a second language. This finding seems driven by the instructional constraints imposed by large classes. The optimum setting for learning a second language requires extensive dialog between teacher and learner, which is impossible in classes with more than eight students. Drastic reductions in class size may be the most productive step that could be taken to improve the instruction of LEPS.11

All three types of programs studied by Ramirez taught English somewhat differently from the way English is used in a mainstream classroom. Thus, the Ramirez study suggests there are only two operational features of SEI-- those factors that make an SEI program an SEI program:

1. use lots of English

2. teach English through an ESL methodology which is different from the way English is taught in the mainstream classroom.

Interviews with teachers (Dade Co. 1985; Gersten and Woodward, 1997) suggest that teacher attitudes are another feature differentiating SEI from bilingual education programs. Bilingual education program teachers appear more likely to believe the silly theoretical speculations of Krashen, Cummins, Collier, and others that extensive use of the non-English language is necessary, that literacy should first be developed in the non-English language, and that non language subjects are best taught in the non-English language while English is being learned.12

Basically, teachers in different programs tended to express attitudes in tune with the program they were teaching, but not always. In the Dade Co. teacher interviews, the teachers in the SEI program, who hod previously been bilingual education program teachers, tended to disapprove of the SEI program. Since there is some reason to think that teacher attitudes affect student learning, it is not desirable to have teachers harboring doubts about what they are teaching. Consequently, it seems that some teacher re-education and attitude adjustment should be part of any change from bilingual education to SEI.

Thus, there may be three operational features of SEI-- those factors that make an SEI program an SEI program:

1. use lots of English

2. teach English through an ESL methodology which is different from the way English is taught in the mainstream classroom.

3. teachers who are at least accepting of, and preferable enthusiastic about, SEI.

Another important feature of SEI that turned out not to be much different from bilingual education programs was the notion that English could be developed simultaneous with teaching subject matter in the non-language subjects. While there are apparently are a few ESL methods that manage to teach English without also conveying some subject matter content, most teachers, regardless of the program type, incorporate English development into lessons in other subjects when these lessons are taught in English, and vise versa.

Even teachers of monolingual English speakers do this. For example, can the development of English really be separated from a geography lesson on earthquakes? Can't we think of the geography lesson as a lesson in developing one part of the English language that is used more often by one profession--geographers-- than by others? By and large, the distinction separating language from other subjects is artificial and doesn't matter much in actual classroom teaching.

Table VI summarizes the key differences among SEI, bilingual education programs, and sink or swim. However, it cannot be stressed too much that it all comes down to only two critical features: (1) does the teacher use English differently13 in a class of LEPS than she would in a class of monolingual English speakers of the same age, and (2) is lots of English used by the teacher?

I keep harping on this very simple point because many educators, especially program administrators, who were brainwashed by their college professors with a lot of linguistic nonsense, have trouble accepting the fact that there is no more to it than this.

Is SEI Effective?14

It is important that we understand what is meant by an effective program for LEPS. The Supreme Court's Lau Decision tells that programs for LEPS must be judged solely on whether they teach English and the other subjects in the standard school curriculum better than would happen if LEPS were put in a sink or swim setting in the mainstream classroom. Progress in any language other than English does not count. There is no doubt that many bilingual education programs succeed in teaching Spanish at no cost to learning English when compared to the sink or swim setting. By some standards, that makes bilingual education a very effective program, but it doesn't count as success in the USA because the courts have ruled that only accelerated progress in English matters.15

There is also no doubt that some bilingual education program trade off learning English for learning Spanish. Again, by some standards, that makes bilingual education an effective program -- it is developing two languages-- but it doesn't count as success in the USA because the courts have ruled that only progress in English matters.16

Over the last 18 years, I have identified the following programs as effective examples of SEI. These successful SEI programs can be copied or used as models for developing your own SEI program.17

The Canadian Immersion program, first detailed by Lambert and Tucker, is the exemplar for SEI 18. Advocates of bilingual education programs argue this instructional method, although very successful in Canada, will not generalize to LEPS in the USA. However, the programs discussed next show that fear is baseless.

Gersten and his colleagues found SEI superior to bilingual education among Vietnamese immigrants in California and in Texas for Hispanics. A second SEI program for Hispanics in Texas was found to have improved high school graduation rates and lower retention throughout school compared to a prior, ill defined program.19 The programs Gersten studied in California and in Uvaldie, Texas, were all-English direct instruction programs (DISTAR) used with LEP students. DISTAR provides a structured curriculum that can be adjusted to the level of the learner, and clearly works well when used to teach English as a second language, as well as with English-speaking at-risk students.

That DISTAR is appropriate for both LEPS and English speakers suggests that direct instruction programs may be one avenue worth looking into to meet Prop 227 requirement of mainstreaming after one year of language segregated instruction. A DISTAR mainstream classroom may be suitable for both mainstreamed LEPS for learning English and for mainstream students.

Ramirez et al. compared SEI to two types of bilingual education programs which differed in the number of years Spanish was used and in the amount of Spanish used during the school day. Table I shows the results.20 Late Exit programs are the model stressed by advocates of bilingual education.21 The superiority of SEI over bilingual education programs in teaching English is clear.

Several of the schools included in Ramirez' study were in California. However, these California schools that successfully did Structured English Immersion programs a decade ago, and are now a model for the state, did it as part of a federally sponsored experiment I directed where we promised to keep the identity of the participating schools secret. At that time, these schools were going against the dictates of a rabidly pro-bilingual education bureaucracy in the State Dept. of Education, and they properly feared retribution from these bureaucrats for what they were doing. The State Board of Education should make it clear that these farsighted schools need no longer fear retribution from the state, and urge them to come forward to help the rest of the state comply with the new law.

Recently, since California liberalized its requirements for teaching LEPS, the Santa Fe School in Solana Beach instituted an SEI program and compared it to a bilingual education program, reporting that "students in the immersion program showed more growth [in language and math] than students in the transition model."22

Yap and Enoki compared ESL 23 and bilingual education programs in 55 schools for 4,000 students. The authors concluded there was no difference in English learning between ESL 24 and bilingual education programs, but, over several years of school and across several different measures, they conducted 47 comparisons, with 31 favoring ESL, a statistically significant advantage (P=.018, Fisher's Exact Test).

Other examples of effective ESL programs are in Fairfax Co. VA, and Prince Georges Co. MD. Chamot and O'Malley (1996) discussion of the CALLA approach to second language instruction is also worth looking at as CALLA seems to incorporate the same instructional methodology as SEI.25

Texas state law requires bilingual education, as California used to. The Texas law allows temporary

experimental trials of alternatives. In the mid-1980s, seven Texas LEAs conducted a multi-year trial comparing SEI to bilingual education, which was evaluated by the SEA. SEI was the clear winner.26

El Paso created an SEI where Spanish instruction was reduced to 30 minutes a day. They followed students from this minimal Spanish use program and from the state mandated bilingual education program for 12 years 27. The SEI students scored significantly higher on all tests for 11 straight years. In the twelfth year, the SEI students still scored higher, but their advantage was no longer statistically significant, suggesting that after a decade or so, the harm bilingual education programs do to learning English is more or less wiped out by continued exposure to English outside the bilingual education program classroom.

Gersten and Woodward (op. cit. 1995) also did a teachers attitude survey in El Paso. The results (see Table II) indicate that the teachers in the program using more English were more confident their students would succeed when mainstreamed.

Webb et al.28 looked at 16 schools, 8 SEI, 8 bilingual education in Houston. A LISREL analysis found SEI produced higher English achievement. LISREL coefficients can be interpreted somewhat like effect parameters in meta-analysis. The LISREL coefficient favoring immersion was 0.6, which can be compared to an effect for nonverbal IQ of 0.278. In other words, the superiority of SEI over bilingual education on learning was more than twice as great as the impact of intelligence on learning, demonstrating an impressively effective program.

In 1994 New York City issued a longitudinal study of 15,000 LEPS. 29 On every measure, those in ESL outperformed those in bilingual education. However, since the report did not control for ethnicity, which was partially confounded with program assignment, this report has been dismissed as invalid. Nevertheless, the report deserves to be taken seriously. There were five ethnic groups. The five ethnic group can be ranked by percentage of students in ESL. The rank order correlation between exposure to ESL and the percentage of the ethnic population mainstreamed within three years was r= 1.0 (the product-moment correlation was r= .96).

I need hardly point out that correlations at these levels are unheard of in educational research. This is a remarkable relationship between program and effect. The correlations tell us we can pick any two ethnic groups and predict with perfect accuracy which one will have had the most success if we know the percentage of the population in ESL. Indeed, we can pick any three or any four or all five ethnicities and predict with perfection their success in learning English, knowing the percent of each group in ESL. On the other hand, if all we know are the ethnic groups, these predictions cannot be made with perfection. We might get some-- Hispanics or Chinese, but what about Hispanics or Haitians, Korean or Chinese, and Russian or Chinese? What if we go to triples? What is the academic rank order of Chinese, Koreans, and Russians? Given only the ethnicity, we don't know, but once we know the percentage in ESL, we can answer all these questions perfectly.

The relationship between ethnicity, type of program, and outcome is beyond coincidence. It is not necessary to statistically control for ethnicity to see there is a difference in effect between the programs.

California's proposition 227 imposes the added constraint of requiring LEPS be mainstreamed after one year. Although many of the SEI programs described so far mainstream their students in 2-3 years, compared to the 5-8 years called for by a full bilingual education program, the only SEI program I know that can satisfy California's new law is Seattle's Newcomers Program. LEPS in Seattle are first

placed in "Newcomer Centers" for a half a year to one year where they receive intense instruction in English. After no more than a year, they are mainstreamed. They get additional help in the mainstream classroom as needed through ESL instruction and sometimes also with native language support from non-English speaking teacher aides.

Madeline Ramey and I looked at test results over three years for three groups of students in Seattle: (1) LEPS in the ESL/native language support program, (2) LEPS whose parents opted them out of the program into the mainstream classroom, and (3) English-speaking students-- the mainstream classroom-- scoring below the 35th %ile, the score used to classify language minority children as LEP.30 Table III clearly shows that LEP students benefited from the program.

The LEPS in the program gained about twice as many NCE scores31 in English reading and language as did LEPS whose parents opted them out of the program and into the mainstream classroom.32 This, and the large NCE gains they made, shows the Seattle program-- a model for what Proposition 227 calls for-- is remarkably effective in moving LEPS toward full participation in an English speaking society.

The Seattle math results are especially instructive. LEPS in the program learned over ten times as much as did mainstreamed LEPS. These results conclusively disprove the claims of bilingual education program advocates that non-language subjects like math must be taught in the non-English language so that the student can keep up while learning English. These LEPS were taught in English, and learned more math than did native English speaking students.

How Does SEI Work?

Although SEI, which uses more English that does bilingual education programs results in LEPS learning more English, it is not merely a matter of time on task. The teachers of Ramirez' Early Exit students (Table IV) used considerably more Spanish than did the SEI teachers, with equally good results. Baker and de Kanter identified a few bilingual education programs where more English was learned than was learned by comparable LEPS in an all-English setting.

Some (minimal) use of the student's non-English language may help in any or all of these ways: It makes the student more comfortable in school. It more quickly gets through really difficult communication problems between teacher and student. It boosts student self-esteem.33 It helps motivate learners. It takes advantage of the powerful effect of massed verses spaced trails on learning (see Baker, 1992 or Rossell and Baker, 1997).

On the other hand, monolingual teachers can also do well in teaching LEPS.34 "Based on the two years of observational research and analysis... monolingual English speaking teachers can work productively with language minority students, and teachers need not radically alter their approaches to teaching to be successful."35 "...teachers of ESL students could follow sound principles of reading instruction based on current cognitive research done with native English speakers. There was virtually no evidence that ESL learners need notably divergent forms of instruction."36

Adjusting instruction in English to the learner's level of English seems important, if not essential. Seattle did something with their LEP program students that did not happen to fully mainstreamed LEPS. The two Direct Instruction programs examined by Gersten used a structured instructional approach where teaching was adjusted to the level of the learner, even though the program was developed for at-risk monolingual students.

Although it apparently has not been addressed in the research literature, it seems that teachers with a good command of standard English, who can model English well, is also an important ingredient of teaching English. This is indirectly supported by several studies showing that the more competent teachers are by the standards of bilingual education programs, which place a premium on speaking some other language, the more poorly their students learn English.

Classroom aides who speak a non-English language contribute to an SEI program by providing instructional support to children having temporary difficulty following a lesson in English.

Why use SEI?

California's schools have no choice. Others should consider SEI as an effective alternative to bilingual education programs in meeting the legal requirements of Lau for teaching LEPS. Another important reason to use SEI is that it solves a vexing problem in bilingual education programs. If we assume bilingual education program theory is correct, that is, that LEPS benefit from Cumins' Threshold and Facilitation Hypotheses and from instruction in non-language subjects in the non-English language while learning English, there is no valid method for identifying which students will benefit from bilingual education or who needs it.

The assumption that those students who need help in English because they depend on some other language can be identified is invalid; it can't be done at any acceptable level of accuracy. LEP identification procedures and the procedures used to determine when a student is ready to move from a bilingual education program to the mainstream classroom are psychometric nightmares of error and false assignments. One major error is assigning students who speak and use English better than they speak or use another language to bilingual education programs.

The only valid information known about LEPS is that they need help with English. Therefore, teaching and helping them in English is indisputably correct. SEI, especially the Direct Instruction Model, finesses the identification problem by teaching kids having trouble with English in English, not in some other language they may or may not know well enough for schooling.

Many LEAs as well as state law in California and New York, require a LEP student to pass both an English Reading and English Language standardized achievement test at the 40th %ile. By definition in the way standardized achievement tests are constructed, 40% of all monolingual English speaking children could not pass a 40th %ile cut off. Making it even worse, a joint requirement-- the 40th %ile on two sub-tests-- is about a 60th %ile score on the total test battery-- the majority of monolingual English speaking students could never pass the test to get out of these programs.

California's new law solves this problem with heavy-handed finesse-- everybody is mainstreamed after one year. Even if California continues their absurd 40th %ile cut score, it is no longer a problem: (1) LEPS will be in the mainstream after not more than one year, and (2) schools will probably have to continue to give them extra help in English after they are mainstreamed until they meet the English cut off score-- performance higher than the typical native English speaker. California's new law seems to have inadvertently created a program of extensive help in English within the regular classroom setting until LEPS master English at a level well above that of the average English speaker. While this may be silly in some respects, it is an interesting civil rights program in that it provides extra help to language minority students until they surpass the majority. Since lack of English ability is the driving force behind the low socio-economic status of language minorities in the USA, the over-dose of

English instruction produced as side effect of California's new law will be of great help to these children's future as adults in an English speaking country.

What to do.

How to put together a SEI program:

- a. Take your ESL component and do it nearly all day long. Teachers are already teaching English, just do more of it during each day instead of spreading it out over several years. It is important to note that this point assumes English is developed almost exclusively through the teaching of other academic subjects, which is what a good bilingual education program will already be doing.
- b. Reduce teachers' use of L1 to 5-30% of instructional time.
- c. Use a level of English, both by teachers and in reading materials, appropriate to the learners' level of English. Again, this is already done during the English part of the day in any decent bilingual education program. Simply increase the English part of the school day.
- d. Do not force students to stop using L1; they will switch to English as soon as they are comfortable with it as a consequence of the motivation generated by the teacher's modeling English.
- e. Since some LEPS will speak their non-English language for awhile, it helps to have somebody in the classroom who knows that language, but this probably not essential.
- f. To successfully mainstream in one year-- which is not long enough for many LEPS to learn English-- provide support for LEPS within the mainstream classroom with
    - i. ESL instruction, either within the classroom or pull out
    - ii. aides or teacher who speak the non-English language if available
- g. Carefully monitor certified bilingual education teachers and teachers with degrees in bilingual education to be sure they use English at least 70% of the time.

Extensive research points toward this important conclusions about how to best teach LEPS: ignore all program topologies and program varieties propounded by assorted college professors about different types of programs for LEPS. There are only two program features that matter:

- Is the student left to sink or swim, or does he get special help, and
- Is instruction mostly in English or is another language heavily used?

We don't know the most important piece of information about how to most effectively teach English and other subjects to LEPS-- What is the optimum proportion of instructional time in English? We can hazard some guesses. The type of program championed by Krashen, Cummins, Collier, and by most advocates of bilingual education programs, and required by Texas state law and previously required by California state law, use too much of the non-English language. This type of bilingual education program harms learning English. It does a better job of teaching Spanish than any other program, but success in English is what is legally required by the Supreme Court's Lau Decision.

Knowledge of another language simply does not count. 37

The El Paso Public Schools followed students from two programs through 12 years of school. One program was the Texas required bilingual education program. The other was an experimental program where Spanish instruction was reduced to 30 minutes a day. For 11 straight years, the nearly all-English program students outperformed the bilingual education program students on every subject tested. In the twelfth year, the advantage still went to the nearly all-English program, but it was no longer statistically significant.

The proportion of time English was used in the classrooms by teachers (Ramirez et al.) is shown in Table IV. Recall that achievement was essentially the same for Immersion and Early Exit programs (Table I), both of which were clearly superior to Late Exit programs. Therefore, student performance is unaffected by the difference in use of English between the Early Exit programs and the Immersion programs. Providing instruction in English somewhere between 70-95% of the school day seems about right.

It also follows, and is confirmed by other research (see Rossell and Baker, 1997; Baker, 1992), that instruction should never be all in English. It is especially risky to push students into premature English production. English learners will come to understand the teacher speaking English well before they will feel comfortable speaking English, and nothing seems to be gained by pushing them into using English before they are ready. On the other hand, staff should do nothing to discourage students from using English, as happens all to often in bilingual education programs.

Table V shows the proportion of student speech within the classroom that was in English in the Ramirez study. Note that (1) the teacher's use of English (Table IV) is modeled by the students-- the more the teacher uses English, the more the students do; and (2) regardless of the program, students use less English than do the teachers. Of course, they are learning English. The lesson learned here is that teachers should not insist on all-English production from their students. Sometimes it helps speed things up and works better for students to ask questions in Spanish which they cannot yet formulate in English than to take the time to struggle through it in English.

Both extremes represented in the program debate over the last decade or so, the all-English movement and the lots of Spanish movement of Cummins and Krashen, are wrong. The best programs occupy a middle ground, using a lot less Spanish than Cummins speculates is needed, but using more Spanish than some think is needed.

It remains to be seen how California will implement the SEI program specified in Proposition 227, but based on the best research now available, I would consider any program using at least 70% English for instruction to be an SEI program. This is a purely empirical definition. Since Ramirez showed there is no difference in learning English between a program using 95% English and one using 70% English, they are both, with respect to learning English-- and that's all that matters-- the same program.

It is now, everywhere, and forever, stupid to assess programs in terms of their inputs. What matters is what was learned, not whether some arbitrary level of use of English was attained. We are looking for the program model that best teaches English to LEPS. The best we can say now is that the best program teaches in English somewhere between 70-95% of the time, and teachers don't get bent out of shape if the kids speak Spanish (on the other hand, teachers should not encourage using Spanish).

It should be much easier to change from a bilingual education program to SEI than many educators

think. All that has to be done is to compress the teaching of English that is already being done over many years into one year. Take a school year of 180 days, six hours a day, a total of 1,080 hours of instruction. An extreme bilingual education program might look like what is shown in the Table, providing a total of 970 hours of English development over three years. An SEI program using 90% English would provide about the same amount of English instruction-- 972 hours-- in one year. All it takes to turn a bilingual education program into an SEI program is to re-schedule the teaching in English that is already being done.

Grade
1 . 2 . 3

% English.
10 . 30 . 50

cumulative hours in English
108 . 432 . 970

Do you need textbooks for your new SEI program? You already have them-- the same books used to teach English in the bilingual education program. If all your geography books, for example, are in Spanish, you will need some English geography books, go buy some. You should have them for your bilingual education program anyhow.

The hardest part of converting to SEI will be to be sure teachers who were brainwashed in college with the Cummins-Krashen model calling for lots of Spanish change to using lots of English. This will require some in-service time and may also require extensive classroom monitoring of teacher speak to make sure English is used as much as it must be.

The surest way to get properly prepared teachers for SEI is to get rid of all certified bilingual education program teachers and teachers with a degree in bilingual education. Research shows these teachers harm learning English (Rossell and Baker, 1997), so regardless of the program, they should be removed from the schools.

The problem with certified bilingual education program teachers is that they have been brainwashed in college by professors addicted to a hair brained, unproved theory of language learning. These poor teachers come to believe the baseless claims of the Krashens and Cumins and Colliers of the linguistic world that it is necessary to teach in some language other than English to learn English. Consequently, that's what they do. Not only do they overuse the non-English language to the detriment of their students, they believe they are doing the right thing in acting this way. Since they are doing the wrong thing, get rid of them.

While the schools should remove LEPS from classes taught by certified bilingual education program teachers as soon as possible, this probably can't be done overnight. In the interim, schools should closely monitor these teachers to be sure they are implementing the SEI program and conduct in-service programs to retrain these ill-prepared teachers to properly teach their students.

The California State Board of Education, as well as the governing authorities in other states, should immediately eliminate college level classes in bilingual education and no longer grant degrees or instruction in this subject. What teachers need to know to successfully teach LEPS is more than adequately taught in second language learning methods classes in other departments.

The teacher's skills in English should have the highest priority in selecting teachers for LEPS. This is essential. On the other hand, teacher knowledge of the student's non-English language is desirable but far from necessary. The teacher of LEPS should speak accent free English, use proper grammar, and command an extensive vocabulary.

Comments. SEI is not necessarily an all-English program, but it does make considerably less use of the non-English language for instruction.

Schools that decide, or are forced by law, to change to SEI do not face as formidable a task as many fear. Not only have others paved the way in developing effective SEI programs to serve as a model, but also the job seems easier to do than most believe. Not only have the schools discussed earlier created effective SEI programs without much trouble, they have done it in the face of considerable opposition from bilingual education program advocates, college professors, and often from the state and federal educational bureaucracies.

Linguists and professors of second language learning and bilingual education over dramatize the difficulty LEPS face in learning English. Humans are remarkably good at language learning. There seem to be only two ways to screw up a LEP child's opportunity to learn English. The first is to use too much of the non-English language in the classroom, and this seems to be the problem in many bilingual education programs. The second is to fail to realize that LEPS face a more demanding task in school than do native English speaking students. LEPS have to learn everything in the curriculum and then learn English on top of it.

Both bilingual education and SEI theory maintain this extra learning load can be handled within the normal school day, although by different mechanisms. Bilingual education posits it can be done by teaching non-language subjects in the non-English language while the student is learning English. There is very little research support for this contention, and considerable evidence to the contrary.38 SEI argues content and English can be taught together by teaching content through learner appropriate English. Despite demonstrated successes of SEI, this is asking a lot. Much can be said for extending the school day or the school year for LEPS as perhaps the best way to meet their special needs.

Finally, Direct Instruction is particularly interesting since it works well with both monolingual at-risk students and with LEPS. A program with this kind of record should not be ignored.

TABLE I
GAINS THROUGH the THIRD GRADE for THREE PROGRAMS

Mathematics
Language
Reading

Immersion

- 44.0
- 72.9
- 63.7

Early Exit

- 47.1
- 68.3
- 60.4

Late Exit

- 33.3
- 43.9
- 51.4

Source: Ramirez et al. (op. cit.) Adjusted tables from Vol. 2, Appendix C, and Baker, (1992)

TABLE II
TEACHER'S ASSESSMENT of STUDENT PROGRESS in TWO PROGRAMS

% teachers from the two programs saying YES to:
less Sp
most Sp

most students will succeed in the mainstream after the special program
73
45*

the program successfully develops oral English
74
36*

the program motivates the students to learn English
79
35*

* The program using less Spanish is statistically significantly different ($P<.05$) from the program using more Spanish.

TABLE III
NCE GAINS OVER THREE YEARS (1991-1993) for LEP AND NON-LEP STUDENTS READING

Ave. NCE Gain
N

LEPS in the Program
7.7*
1223

LEPS in Mainstream

3.1
84

Non-LEPS Below 35th %ile in Mainstream
4.4
3894

LANGUAGE

LEPS in the Program
6.9*
958

LEPS in Mainstream
3.7
83

Non-LEPS Below 35th %ile in Mainstream
5.3
3894

MATH

LEPS in the Program
7.8*
1250

LEPS in Mainstream
.6
88

Non-LEPS Below 35th %ile in Mainstream
1.5
3894

* The gain for LEPS in the program was significantly greater (P<.01) than the gain for either of the two other groups.

TABLE IV
PERCENT of TEACHER SPEECH in ENGLISH

GRADE
Immersion
Early Exit
Late Exit

K
98.5
65.8

9.3

1
97.3
69.1
32.9

2
98.2
74.5
30.3

3
99.0
80.3
50.6

4
99.8
97.3
55.3

5
NA
NA
63.6

6
NA
NA
80.3

TABLE V
PERCENT of STUDENT SPEECH in ENGLISH

GRADE
Immersion
Early Exit
Late Exit

K
94.3
65.6
9.3

1
96.6
64.5
32.5

2
97.2
71.5
30.8

3
98.6
77.2
52.0

4
98.0
96.0
59.3

5
NA
NA
65.3

6
NA
NA
83.3

TABLE VI

SEI
bilingual
education
sink or swim

Uses English attuned to the level of the ESL learner
YES
YES
NO

Uses English for at least 70% of instruction
YES
NO
YES

English and other subjects are taught together
YES
YES
YES

Has formal lessons in some language other than English

NO
YES
NO

Teaches formal lessons in non language subjects in a language other than English
NO
YES
NO

APPENDIX

SEATTLE PUBLIC SCHOOLS

In 1980, Baker and de Kanter (1981, 1983) reviewed the literature on the effectiveness of bilingual education programs in meeting the needs and legal requirements of the Supreme Court's Lau Decision for teaching LEPS and concluded there was some, but insufficient evidence that bilingual education programs were effective and so a federal mandate of bilingual education programs through federal regulations was not warranted. Subsequently, the US Department of Education withdrew the proposed bilingual education regulations and dropped the Lau Remedies, which also required bilingual education programs.

Years since program exit
NCE Score

0
30

1
35

2
39

3
40

Baker and de Kanter also recommended that schools experiment with applying the Canadian Immersion model, developed for teaching French to middle-class English speaking students in Montreal, to the education of LEPS. Baker and de Kanter christened this application of the Immersion method Structured English Immersion (SEI), in deference to a complaint from about the name Immersion OBEMLA in reviewing the draft report that Immersion meant teaching middle-class Canadian students, and should not be applied to teaching LEPS in the US.

In June, 1998, California's voters passed Proposition 227, which replaces all bilingual education programs in the state with a program of "Structured English Immersion" where non-English speaking students can only be isolated from the mainstream classroom for one year.

Structured English Immersion was first recommended as a superior alternative to bilingual education programs in a report I wrote for the federal government in 1980. It is based on a very successful program used to teach French to English speaking students in Quebec. Structured English Immersion has since been used in many schools around the country, including some in California, with considerable success-- more success than bilingual education programs have had-- in teaching English to non-English speaking students. Any or all these programs not only prove the effectiveness of Structured English Immersion, they also provide models for California's schools to use when converting from bilingual education programs.

Programs that are models for Structured English Immersion include, besides the Canadian Immersion Program, El Paso's BIP program; McAllen, Texas; the Follow-through Program in Uvaldie, Texas; Houston, Texas; Prince Georges Co., Maryland; Fairfax Co., Virginia; Seattle, and 4-5 California school districts.

Method

English language standardized achievement test scores in Reading, Language, and Mathematics were collected over three years for three groups of Seattle students: (1) 1,223 LEPS assigned to the program, (2) 84 LEPS whose parents had chosen to opt their child out of the program, and (3) 3,894 non-language minority, non-LEPS scoring below the 36th %ile, the LEP cutoff score.

Comparing groups (1) and (2) is a direct test of the whether or not the program meets the test of the Supreme Court's Lau Decision which requires schools to do better by LEPS than would happen if they were mainstreamed. Although this is the legal standard by which all programs for LEPS must be assessed, it is rarely done since mainstreaming is illegal. However, it can be done in a situation such as we found in Seattle where a sufficiently large number of LEPS have been opted out of the LEP program by parental choice.

Research comparing SEI to bilingual education programs, which consistently finds SEI to superior in teaching English (Gersten and his colleagues, Baker, 1992; Rossell and Baker, 1996), is not necessarily an adequate test of meeting the Court's requirement since research (El Paso,) suggests that many bilingual education programs depress English learning. Consequently, comparing an alternative program that does no better than submersion to a bilingual education program that harms learning English will show a difference between the programs, although neither is acceptable for meeting the Court's standard for teaching LEPS.

Comparing (2) with (3) shows how well the LEPS are doing in relation to what were at least initially comparably scoring English speaking students. LEPS should turn out to be better students than low scoring English speakers since LEPS English performance is presumably depressed by their dependence on a language other than English whereas the English speaking students are one dimensional low achievers. Although some LEPS may also be low achievers for non language reasons, most LEPS should ultimately perform above the 35th %ile when they have mastered English.

Comparing (2) with (3) also controls the regression to the mean artifact.

Using standardized achievement tests also lets us compare the LEPS to the monolingual English norm, although this comparison is of limited usefulness since there is no reason to expect bilingual children to ever match the English performance of native English speakers.

The norm is somewhat useful in longitudinal analysis to determine whether LEPS are gaining or losing ground relative to the monolingual English population over time. Analysis

Standardized achievement test scores are commonly but questionably analyzed by multiple regression. We made no adjustments to the data for several reasons. First, educational data violates the levels of measurement assumption required for regression analysis and introduces multicoliniarity artifacts. The common belief that regression is sufficiently robust to overcome these problems is unsupported, and is maintained by the unwarranted bias of journal editors to take regression at face value.

Second, inspection of the data base showed there was an ethnic bias, the non-program LEPS were more likely to come from Asian home backgrounds. That is, this comparison group would be expected to score higher than the students in the program, regardless of the effect of the program. Consequently, by not attempting to adjust for ethnic differences, we created a conservative test of program effects.

Third, theories of the poor academic performance of LEPS assert it is the consequence of language, not ethnicity or social class. Therefore, it is proper to evaluate programs on language and other factors should not be considered.

Fourth, proper application of statistical theory to evaluation problems indicates that unadjusted data should be used (Demming).

To assuage those who worry about so-called "uncontrolled" variables affecting the outcome, we did a confirmatory analysis of the results with the Kolmogorov-Smirnoff test to be sure there were no levels of measurement artifacts and with multiple regression analysis controlling for pretest, ethnicity, and socioeconomic status (free lunch). The results were identical, but we only present paired comparisons from a one-way analysis of variance as that is the most appropriate test.

Results

The average NCE score gain by the program students over three years was statistically significantly greater than the gains for both the submersion LEPS and low achieving monolingual English speakers in all three areas-- reading, language and math.

We did not bother testing total battery scores as they too were obviously significant.

If the LEPS in the program were learning as much in school as does the average English speaking student, their NCE gain would have been zero. Gaining 7-8 NCE scores is a mark of fairly effective program.

Another indicator that the program was effective is the relative lack of progress made by submersion LEPS. LEPS in submersion learned noticeably less than did low achieving monolingual English speakers, but program LEPS learned more than either of the other two. LEPS placed in submersion did not keep up with their monolingual English peers, but program LEPS outperformed the English speakers.

Hargett collected data on the test scores over four years of LEPS exited from the Seattle program. We re-analyzed this data. Table II shows the results of the re-analysis, the mean NCE score for exited LEPS the year of exit and for each of the next three school years. Using the national norm as our

standard, Table II shows that the graduates of Seattle's program learned more each year after they left the program than did the average monolingual English speaking student in America's schools. These results show the program successfully prepared LEPS to compete in the mainstream classroom since every year the former LEPS were learning more than were native English speaking students, another indicator of a successful program.

These data can also be taken as showing the LEPS were continuing to make progress in mastering English, even three years after leaving the program. The program gave then the necessary academic foundation for continued success in school.

These results are in marked contrast to what happened in Seattle's first attempt to meet the special needs of LEPS. Subsequent to the Supreme Court's Lau Decision, in 1976 Seattle established a bilingual education program which was evaluated by Matthews (1979) who also compared language minority students in the program to those mainstreamed without special services and found no evidence of a program effect, although the program students were progressing as fast as were the mainstreamed students in learning English.

Simply put, in changing from a bilingual education program to an SEI program, Seattle went from an ineffective program for LEPS to an effective program.

REFERENCE

Matthews, T. 1979. An investigation of the effects of background characteristics and special language service on the reading achievement and English fluency of bilingual students. Mimeo. Dept. of Planing, and Research, Seattle Public Schools.

ENDNOTES

1. The author is an independent social science research consultant. From 1979 to 1989, he worked in the main evaluation office of the U.S. Department of Education where he directed several extensive studies on bilingual education.

2. The irony of the bilingual education program advocates protesting changing to SEI on the grounds that nobody knows what it is when these same bilingual education program advocates are the ones responsible for the lack of knowledge of SEI cannot go without being noted.

3. My apologies for the disjointed nature of this piece, but I decided that making information on SEI available as quickly as possible for California's schools to use in planing their program under Prop 227 outweighed taking the additional time that would be needed for editing.

4. K. Baker and A. de Kanter. (1983). Federal Policy and the Effectiveness of Bilingual Education. In Baker, K. and de Kanter, A. (eds.) Bilingual Education: A Reappraisal of Federal Policy. Lexington, Mass.: Lexington Books.

5. L. Schinke-Llano and J. D. Ramirez. 1984. "Programmatic and Instructional Aspects of Language Immersion Programs" SRA Technologies. U.S. Department of Education Contract # 300-83-0250

6. J. D. Ramirez, J. Pasta, S. Yuen, D. Billings, and D. Ramey, 1991. Final Report: Longitudinal Study of Structured Immersion Strategy, Early-Exit and Late-Exit Transitional Bilingual Education Programs for Language-Minority Children. San Mateo, CA: Aguirre International, report to the U.S. Department of Education, Washington, D.C. Contract # 300-83-0250.

7. Teacher's often employ the wisdom of the practitioner to correct the flights of fancy college professors concoct in their Ivory Towers, and it's a good thing for students that they do. College professors get paid to spew forth journal articles, not to teach kids or to improve the teaching of kids. Take what they say with a big grain of salt. Consider Stradivarius making a cello.

8. Musicologists say that Stradivarius' cellos are even more impressive instruments than are Stradivarius' violins. Some physicists-- college professor experts in acoustics-- analyzed string instruments and concluded that Stradivarius's cellos were too small. The professors pronounced that the ideal cello ought to be 3 times the size of a violin, but Stradivarius' cellos were noticeable smaller. The experts concluded that they could make a better cello by making it bigger. So they did, and it sounded awful. Not only wasn't it anywhere near the quality of a Stradivarius, it wasn't even as good as mass produced cellos stamped out in China that copied the size of a Stradivarius. So what was the secret Stradivarius knew that the acoustical experts didn't? Musical historians have concluded that Stradivarius had no secret.

9. They understand exactly how Stradivarius made a cello. The secret is that no two cellos are exactly alike. The quality of the wood makes a difference, but once a piece of wood is cut for the back of the cello, there will never be another piece of wood like that one. What the expert violin maker knows that the acoustical experts don't is what to do about it. The expert cello maker knows what to change somewhere else in the cello to adjust for the differences in the quality of the wood or the number of pieces of wood used for the ribs, or the number of coats of varnish. There are too many variables that interact with each other to reduce making a cello to a formula.

   The practitioner making a cello-- the artist who knows how adjust the science to make it work-- is the expert cello maker. The teacher in the classroom, not a college prof at Berkeley, is the one who know how to teach. If the teachers reject the instructional practices the college professors say ought be found in some program, it's most likely because the teacher's know these don't help. Maybe some teachers don't know these should be there, according to some professor who is not teaching, but when classroom observations show they are completely missing, it is the professors, not the teachers who need to go back to the drawing board.

10. Ramirez et al., op. cit. Lucas & A. Katz (1994) Re-framing the debate: the role of native language in English only programs for language minority students. TESOL Quarterly, 28(3), 537-561. Classroom observations in nine programs funded under Title VII as all-English alternatives to bilingual education found considerable use of the non-English language. Teachers used English about 90% of the time, but students spoke English only 42% of the time.

11. J. D. Ramirez and K. Baker, (1987, April). "Becoming a more frequent speaker of a second language." Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C.; and Ramirez et al. op. cit.

12. See Rossell and Baker, 1997 for a discussion of the lack of evidence supporting these claims.

13. Differently here means both different from the way non-LEPS are taught and appropriate to the level of English of the English learners.

14. My criterion for effectiveness is teaching English and other subjects when tested in English. This is the legal requirement set forth in the Supreme Court's Lau decision. There is no doubt that bilingual education programs succeed in teaching more Spanish than does SEI, but legally, that does not matter.

15. The Courts also require adequate progress in non-language subjects. A key claim for bilingual education programs is that they can better teach these subjects in the non-English language while the student is learning English. However, Rossell and Baker's review of the research and evaluation studies found no support for this claim. Again, the issue comes down to time of use of English for instruction, so there is no point in dwelling on this issue.

16. By educational standards, the Court's view is limited since much can be said for being bilingual. Educators who hold there are other important goals besides learning English should re-visit the discussion of the Ramirez study which shows there was no difference in English learning between an English Immersion program taught 95% in English and a bilingual education program taught 70% in English. Teaching 30% of the school day in Spanish should produce considerable gains in Spanish compared to an all English program, and since it appears this can be done with no ill effects on English, such a program would not seem to violate the Court's standard.

    It remains to be seen how California finally implements Prop 227, but Prop 227 requires SEI, and I think a program using 30% Spanish could well be considered an SEI program since the resulting performance in English is the same as a 95% English program. If two programs produce the same result, are they not the same program? It's the result that matters, not the input mix.

17. Prop 227 requires SEI and imposes a one year limit on instruction outside the mainstream classroom. The one year limit is not inherently part of an SEI program; most SEI programs run about three years. However, as will be discussed, there are SEI programs that meet the one year restriction.

    It is worth reviewing the SEI programs that last for more than one year because they tell us a lot about how SEI operates, and this knowledge should help schools fashion SEI programs that also meet the one year limit. For instance, some of the SEI programs discussed used a program originally developed for disadvantaged English speakers, suggesting a school might satisfy Prop 227 with a one year language segregated program for LEPS who are then placed into a DISTAR program with disadvantaged non-LEPS. Alternatively, perhaps the language segregated program could be completely dispensed with and an integrated DISTAR program used from the beginning.

18. There is an extensive literature on the Canadian Immersion program. See especially W. Lambert and G. Tucker 1972. Bilingual Education of Children: The St. Lambert Experience. Rowley, Mass.: Newbury House Press; and F. Genesee, N. Holobow, W. Lambert, and L. Chartrand. 1989. "Three Elementary School Alternatives for Learning through a Second Language." The Modern Language Journal 73:250-263.

19. W. Becker and Russell Gersten. 1982. "A Follow-up of Follow Through: The Later Effects of the Direct Instruction Model on Children in Fifth and Sixth Grades." American Educational Research Journal 19:75-92. R. Gersten. 1985. "Structured Immersion for Language Minority Students Results of a Longitudinal Evaluation." Educational Evaluation and Policy Analysis 7:187-196; R. Gersten and J. Woodward. 1995. "A Longitudinal Study of Transitional and Immersion Bilingual Education Programs in one District." Elementary School Journal 95 (3),223-239. _____. 1985. A case for structured immersion. Educational Leadership. Sept., 75-79.

20. Ramirez et al. op. cit. did not perform a test of statistical significance between the Late Exit program and either of the alternatives, although it is obvious the two other programs are superior, and would be significantly so if the test were done. Ramirez did test the difference between the Immersion and Early Exit programs, and found nsd.

21. See V. Collier 1987a. The effect of age on acquisition of a second language for school. Washington, DC: National Clearinghouse for Bilingual Education; 1987b. Age and rate of acquisition of second language for academic purposes. TESOL Quarterly, 214),617-641; J. Cummins, 1978. Educational implications of mother tongue maintenance in minority language groups. Canadian Modern Language Review, 34, 395-416; 1981. The role of primary language development in promoting educational success for language minority students. In California State Dept. of Education (Comp.), Schooling and language minority students: A theoretical framework. Los Angeles: UCLA Evaluation. Dissemination, and Assessment Center; 1985. The construct of language proficiency in bilingual education. Perspectives on Bilingualism and Bilingual Education. pp. 209-231. Washington, DC: Georgetown University Press; and S. Krashen and D. Biber. 1988. On Course: Bilingual Education's Success in California. Sacramento, California Association for Bilingual Education.

22. M. Hobbs. 1997. Abstract. Immersion Program at Solana Santa Fe: A Model for English Language Learners. Practicum Report, Nova Southeastern University, Los Angeles.

23. English as a Second Language

24. Over the years, a remarkable compendium of program topologies for LEPS has emerged, mainly the result of excessive academic theorizing. For practical purposes, there are only three relevant programmatic dimensions and five types of programs. The three program dimensions are: (1) is instruction in English taught differently than it's taught to English speaking students, (2) how much is the non-English language used-- none, a little, or a lot, and (3) is the development of the non-native language a program objective? The five programs are (1) sink-or-swim, or submersion, (2) all-English, (3) SEI, (4) bilingual education programs, and (5) a fuzzy area in between SEI and bilingual education programs in the amount of English used. Since Californian's Proposition 227 only differentiates two types of programs-- SEI and bilingual education-- I include ESL and other program variants using significantly more English for instruction than do bilingual education programs as SEI. However, as it is traditional in the field to separate SEI from ESL for irrelevant reasons, we will continue that convention in discussing research on ESL programs.

25. Chamot, A. and O'Malley, JM. 1996. The Cognitive Academic Language Learning Approach: A Model for Linguistically Diverse Classrooms. Elementary School Journal 96(3),259-273.

26. Pro-bilingual education political pressure in Texas makes it almost impossible to learn anything about this study from the SEA.

27. El Paso Independent School District. 1987. Interim Report of the Five-Year Bilingual Education Pilot 1986-87 School Year. El Paso, TX: Office for Research and Evaluation; 1990. Bilingual Education Evaluation: the Sixth Year in a Longitudinal Study. El Paso, TX: Office for Research and Evaluation, September; 1992. Bilingual Education Evaluation. El Paso, TX: Office for Research and Evaluation, November.

28. J. Webb, R. Clerc, & A. Gavito. 1987. Comparison of bilingual and immersion programs using structural modeling. HSID mimeo.

29. Educational Progress of students in bilingual and ESL programs: A Longitudinal study. Oct 1994. NYC .

30. Including low scoring English speakers in the evaluation addresses a difficult problem in LEP program evaluation. The procedures used to identify LEPS cannot tell the difference between a 35th %ile score caused by dependence on some other language and a low achieving English speaker. In the first case, bilingual education might work, in the latter, it never will. See K. Baker and S. Pelavin. (1984, April). "Unique problems and solutions in evaluating bilingual programs." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, and C. Rossell and K. Baker. 1988. Selecting and exiting students in bilingual education programs. Journal of Law and Education, 17(4), 589-623.

31. Normal progress in school as measured by NCE scores is no change. That is, a student who starts elementary school at the 50th NCE would ordinarily be expected to graduate high school at the 50th NCE. Educational researchers generally accept a gain of 3 NCE or more a year as indicative of an effective program; a program where the student is making greater than normal progress.

32. This is a better test of whether a program meets the Lau standard than is comparing the effectiveness of bilingual education and immersion programs. Lau says schools should do better by these students than what happens if they are merely left to sink or swim. The superiority of SEI over bilingual education programs does not necessarily show SEI is better than sink or swim. The Seattle data directly addresses that issue, for the LEPS opted out of the program enter the mainstream on their own, to sink or swim.

33. S. Alexander and K. Baker. (1992). Some ethical issues in applied social psychology: the case of bilingual education and self-esteem. Journal of Applied Social Psychology, 22,22, 1741-1757 reviewed the literature on the relationship between bilingual education programs and student self-esteem. Participation in bilingual education programs had no effect on self-esteem, so this speculation that use of the native language is helpful in boosting self-esteem is probably insupportable.

34. C. Rossell and K. Baker (1996) Bilingual Education in Massachusetts. Pioneer: Boston, point out several studies showing the more competent a teacher is by bilingual education program standards, the more poorly her students do in learning English.

35. R. Gersten 1996. op. cit. p. 239

36. J. Fitzgerald. 1995. English as a second language learners' cognitive processes: A review of research in the United states. Review of Educational Research. 65, 145-190 p. 184.

37. See Ramirez et al. op. cit. and Rossell and Baker.

38. See C. Rossell and K. Baker op. cit. and K. Baker and A. de Kanter op. cit. for reviews of the literature on the effectiveness of bilingual education programs.

39. K. Baker. 1992. "Misled by bad theory." Bilingual Research Journal. 16, 1&2, 63-90.

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Rossell, C. and Baker, K. (1988). Selecting and exiting students in bilingual education programs. Journal of Law and Education, 17(4), 589-623.

Rossell, C. and Baker, K. (1985, Feb.). "An implementation problem." Paper presented at the annual meeting of the National Association for Bilingual Education, San Francisco.

Baker, K. and Rossell, C. (1986, April). "Issues in selecting students for bilingual education programs." Paper presented at the annual meeting of the American Educational Research Association, San Francisco.